Manitoba
Health
Research
Council

MHRC

ANNUAL REPORT 2001-2002

103-01335/

MISSION STATEMENT

To promote the growth and co-ordination of the health research enterprise in Manitoba

Cover photo – Dr. Emöke Szathmáry, President of the University of Manitoba presents its 2002 Outstanding Service to Research Award to Dr. Ian Smith, Chairperson of Council

For more information contact:

MANITOBA HEALTH RESEARCH COUNCIL
P127-770 Bannatyne Avenue
Winnipeg, Manitoba, Canada R3E 0W3

Telephone (204) 775-1096 Fax (204) 786-5401

E-mail MHRC@cc.umanitoba.ca

Homepage www.umanitoba.ca/academic_support/MHRC/

TABLE OF CONTENTS

ADMINISTRATION

Members of the Manitoba Health Research Council 1

Report of the Chair 2

5 new members appointed to Council 4

Faculty of Medicine recognizes MHRC's Contribution to Health Research 8

Dr. Allan Ronald Honored by MMA 9

20th Anniversary of Council's Establishment

- The beginning - establishment of MHRC 10
- The first 15 years – through the eyes of the Executive Director 12
- The nineties 16
- Five Distinguished Scientists have Chaired MHRC 17

MHRC Supported Researchers Recognized for their Research 22

Three MHRC Awardees Make Major Breakthroughs 24

Manitoba Awarded Three CIHR Program Grants 27

Purpose & Overview of Programs 30

2001-2002 Fiscal Overview 32

Management's Report 33

Auditor's Report 34

Financial Statement 35

RESEARCH FUNDING

I. GENERAL COMPETITION

Review Committees

Operating & Establishment Scientific Review Committee 41

Personnel Scientific Review Committee 42

Social/Population Health Scientific Review Committee 43

Grants

New Establishment Grants 44

Establishment Grant Renewals 44

New Operating Grants 46

Operating Grant Renewal 46

Bridge Funding Grant 47

Regional Partnership Awards 47

Regional Partnership Salary Awards 49

Personnel Awards

New Postdoctoral Fellowship Awards 50

Postdoctoral Fellowship Renewals 50

New Graduate Studentship Awards 51

Graduate Studentship Renewals 53

Research Council

20 years

of vision, leadership and support

of health research

University of Manitoba

MEMBERS OF THE MANITOBA HEALTH RESEARCH COUNCIL

Dr. I. C. P. Smith ♦, Chairman
Director General
Institute for Biodiagnostics
National Research Council

Dr. J. Arnett
Head, Clinical Health Psychology
University of Manitoba
(to December 2001)

Dr. P.C. Choy ♦•
Associate Dean (Research)
Faculty of Medicine
University of Manitoba

Mr. J. Clarkson
Manitoba Research, Innovation &
Technology Division
Department of Industry, Trade and Mines
(from December 2001)

Dr. Joanne Embree
Department of Pediatrics
University of Manitoba
(from December 2001)

Mr. M. Eva ♦, Vice-Chair
President, John A. Flanders Ltd.
(December 2001)

Dr. J. Evans ♦
Department of Biochemistry
& Medical Genetics
University of Manitoba

Dr. B. Friesen
President, Medicure Inc.
(to December 2001)

Dr. N. Fleming
Department of Oral Biology
University of Manitoba

Dr. A. Halayko
Department of Internal Medicine
University of Manitoba

Mr. T. McCormack
Senior Policy Advisor
Department of Health

Dr. C. Metge
Faculty of Pharmacy
University of Manitoba

Dr. Yvonne Myal
Department of Pathology
University of Manitoba
(from December 2001)

Dr. Suresh Mysore
Laboratory Director
Victoria General Hospital
(from December 2001)

Dr. L. Strain
Director, Centre on Aging,
University of Manitoba
(to December 2001)

♦ Members of the Executive/Finance Committee
• Appointed by the University of Manitoba

COUNCIL SECRETARIAT

Executive Director
Dr. Bruce E. McDonald

Administrative Secretary
Ms Elizabeth C. Ford

REPORT OF THE CHAIRMAN

It is a pleasure to report on the activities of the Manitoba Health Research Council during the past year, my fourth year as Chairman. It is a special joy since 2002 marks the 20th anniversary of the passage of the Act that gave legislative legitimacy to the establishment of MHRC. Our Council is extremely grateful to the Faculty of Medicine for naming MHRC the recipient of the "*2002 Outstanding Service to Research Award*" during the Faculty's Research Day 2002. The award recognized the Council's important contribution to basic, clinical and applied research in health science over the past 20 years. As Dr. Emõke Szathmáry remarked during the presentation of the award, "MHRC has been instrumental in furthering the conduct of medical research at every level within the Province of Manitoba". She also commented on the benefit health science researchers receive from "the rigor with which it (MHRC) assesses applications", a topic to which I will return later in my report.

MHRC has continued to play a key role in the support of research in the health sciences in Manitoba during the past year. The Council is the only body, with the exception of the Manitoba Medical Service Foundation, whose grants and awards program is open to individuals conducting research in the health sciences regardless of discipline or affiliation. However, due to a progressive shortfall in its annual budget, even MHRC's support programs are restricted; operating grants and establishment grants are only available to researchers within the first five years of their appointment at a Manitoba university. Even with this limitation on eligibility, MHRC has been unable to support many worthy applications during the past two years. No applications rated "very good" by MHRC's review committees have received funding in the past two years. In other words, only applications rated "excellent" have succeeded. Nonetheless, Manitoba's research community continues to perform well, as evidenced by the short sketches on the achievements of young researchers, who have received funding from MHRC, and the fact that three national CIHR Training Program Grants were awarded to Manitoba (both are described elsewhere in this report). These achievements are a tribute to the fine job of recruitment by Manitoba's universities and the direct support to health research in Manitoba by non-governmental agencies. The Heart & Stroke Foundation of Manitoba, CancerCare Manitoba, the Children's Hospital Foundation, Manitoba Medical Service Foundation, St. Boniface Hospital & Research Foundation, and the Health Sciences Centre Foundation, provide approximately $6.7 M annually to the direct support of health research in Manitoba. This is nearly 2.5 times the amount provided to MHRC's core programs and matching support for the Regional Partnerships Program. The Manitoba Government is aware of this situation, and, I believe is genuinely concerned with the long history of inadequate Provincial support to research in the health sciences. However, support of research is in competition with other demands for Provincial funding and, regrettably, it continues to be under-funded.

Our Council has continued to discuss the reorganization, refocusing and future role of MHRC with the Minister and Deputy Minister of Health. I am pleased to report that these discussions have resulted in the Minister's endorsing the development of a draft plan for the reorganization of MHRC and its programs. Council has agreed to draft a plan for presentation to the Minister by the end of September 2002. This development is the most encouraging news Council has received during my six years as a member.

Representatives of Council also met with the Honorable Diane McGifford, Minister of Advanced Education, during the past year, to describe MHRC's grants and awards programs, in particular the graduate studentship awards. We also met with the Honorable MaryAnn Mihychuk, Minister of Industry, Trade & Mines, to discuss the Regional Partnerships Program and the University-Industry program, which come under her jurisdiction. The U-I program, which was established in 1989 with a Fund of $4 M from resources made available to the Province by Bill C22 (amendment to the Drug Patent Act), has supported 59 research projects totaling $10 M. The uncommitted residual in the Fund has now decreased to so low a level that it is imprudent to announce a competition. This program, which supported cooperative efforts between university researchers and industry, was the only one that supported "proof of concept" research for discoveries that have potential for commercialization.

An important contribution to the quality and integrity of MHRC's grants and awards programs is the peer review provided by our review committees and by the large number of out-of-province reviewers. MHRC's review process, as with essentially all peer review systems, depends entirely on volunteer time contributed by scientific experts in the field. It has been estimated that each member of Council's review committees contributes over 70 hours of volunteer service to the MHRC review process annually. Council is extremely grateful to the members of the review committees who carry out these independent reviews. We are also grateful to the external reviewers who likewise generously contribute their time to the process. MHRC's programs are based on the principle that excellence is the best indicator of future success. Hence, external reviews are vital to the review process because they provide a national and international perspective on the quality of applications to MHRC.

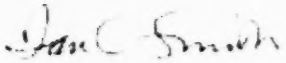
Our Council was pleased to welcome five new members during the past year. The University named Dr. Digvir Jayas to replace Dr. Gary Glavin and the Province named Mr. John Clarkson, Dr. Joanne Embree, Dr. Yvonne Myal and Dr. Suresh Mysore to replace Dr. John Arnett, Dr. Bert Friesen, Mr. Martin Eva and Dr. Laurel Strain. I would like to thank the latter group for their outstanding contribution to Council and for accepting to continue to serve on Council until replacements were named by the Province. I also would like to thank Mr. Tom McCormack who represented the Department of Health on Council for five years. Mr. McCormack, who was Senior Policy Advisor with the Department, has recently joined the Health Sciences Centre as Director of Corporate Services.

The healthcare system has come under intense scrutiny the past few years. Of particular concern is the rapidly escalating cost of healthcare. Tremendous advances in diagnoses and treatment are announced daily. Sound scientific research is necessary to guarantee the

continued evolution of these advances. In this era of rapid advances in technology and an apparent insatiable demand for their introduction, a vibrant research community is crucial to decisions on which technologies to adopt and when to introduce them. MHRC has played a key role in the support of the basic, clinical and applied health research community over the past 20 years.

I look forward with optimism to an increased level of activity in Manitoba's medical research over the next several years. We have an impressive number of highly qualified researchers who deserve to be adequately supported. Their time has come!

Respectfully submitted,



Ian C. P. Smith, Ph.D.
Chairman

FIVE NEW MEMBERS APPOINTED TO COUNCIL

Manitoba Health Research Council is governed by a 12-member Council; two are named by the University of Manitoba and the other ten are appointed by the Government. Members of Council are initially appointed for a three-year term and are eligible for appointment to a second term. Four members, Dr. John Arnett, Mr. Martin Eva, Dr. Bert Friesen, and Dr. Laurel Strain, completed their second three-year term on Council during the past year. Below are brief biographies of the four individuals named by the Province to replace them and a brief biography of Dr. Digvir Jayas, who the University of Manitoba named to replace Dr. Gary Glavin.

Mr. John Clarkson

John Clarkson is the Assistant Deputy Minister, Research, Innovation & Technology Division, Department of Industry, Trade and Mines. As Assistant Deputy Minister, he is responsible for providing leadership in the development of provincial research, innovation and technology policies and for developing and executing programs and strategies that support the provinces research, innovation, and knowledge based business development initiatives. In addition, he is responsible for coordinating research initiatives across government and for developing community economic development initiatives related to broadband community networks and internet access. Prior to assuming his present position as Assistant Deputy Minister, Mr. Clarkson held senior management positions with the Economic Innovation and Technology Council, the St. Boniface General Hospital and the Treasury Board of the Province of Manitoba.

He was Vice-President of the Province's Economic Innovation and Technology Council (EITC) from 1997 to 2001. From 1991 to 1997 he was Director, Financial Analysis and Planning at the St. Boniface General Hospital and prior to St. Boniface he held the position of Manager, Social Programs within the Treasury Board Secretariat from 1987 to 1991.

Dr. Joanne Embree

Dr. Embree is a Professor in and Head of the Department of Medical Microbiology and a Professor in the Department of Pediatrics and Child Health. She grew up in the Maritimes and attended the University of New Brunswick where she received a BSc in General Science. It was during that time that she developed an interest in microbiology and infectious diseases. She went on to do her Master's Degree in Microbiology at Dalhousie University on a project that looked for evidence of arboviral activity in the Maritime provinces. These are viruses, which are transmitted to humans through bites of insects such as mosquitoes and ticks. Western equine encephalitis virus and West Nile virus are well known examples of these types of viruses.

Dr. Embree then went on to Medical School at Dalhousie University, a rotating internship at the Ottawa Civic Hospital, and a three-year Pediatric Residency at The Isaac Walton Killam Hospital in Halifax. In 1985 she came to Manitoba to begin a Fellowship in Pediatric Infectious Diseases.

It was at this time that she was given "an opportunity of a life time". She was invited to go to Kenya, as a Research Fellow under the supervision of Dr Frank Plummer, to take part in the University of Manitoba / University of Nairobi Collaborative Research project on transmission of HIV from mother to child and the natural history of pediatric AIDS in Africa. Dr. Embree spend two years in Kenya working on this project and then completed the final year of training in Epidemiology at the University of Washington in Seattle. In 1989, she returned to the University of Manitoba and the Children's Hospital to take up a position as a pediatric infectious diseases specialist. She continued to collaborate with Dr. Plummer, and the other members of his research team, on the study of mother to child transmission of HIV in Kenya. The group has made a number of important discoveries concerning factors that alter the risk of mother to child transmission of HIV in Africa. Of particular importance was their pivotal study, which demonstrated that breast feeding by HIV infected mothers posed a significant risk to their infants; a finding with obviously significant public health ramifications and which has led to numerous other studies worldwide. Dr. Embree notes that "MHRC has been an important partner in helping maintain this research along with a number of other provincial, national and international granting agencies". Because of this relationship with MHRC, she is "extremely honored to have been appointed to the Council".

Dr. Yvonne Myal

Dr. Myal was born and raised in Trinidad. She completed an undergraduate degree at the University of Winnipeg and MSc and PhD degrees at the University of Manitoba in the laboratory of Dr. Robert Shiu, Physiology. Following her PhD and while working as a research associate in the Department of Physiology, she studied transgenic mouse technology with Dr. Mary Lynn Duckworth. In 1997, she was appointed an Assistant Professor in the Department of Pathology. She also holds a cross appointment as an Assistant Professor in the Department of Physiology and is Director of the Molecular Diagnostic Pathology Laboratory at the Health Sciences Centre. Dr. Myal's research focuses on an understanding of the genes that are critical for gland involution in mammary gland development using transgenic mice and microarray analysis techniques. She is a co-discoverer, in collaboration with Dr. Etienne Legyue in the Breast Cancer Research Group, of a new breast cancer gene, dubbed SBEM (*Dr. Legyue currently holds MHRC establishment and operating grants and Dr. Myal has previously been supported by MHRC*). The new gene has the potential to be a useful tool in the early diagnosis of breast cancer. They are currently investigating this possibility with a grant from an international (US) breast cancer organization, "Friends You Can Count On". Dr. Myal is a member of the Gene Technology Group and the Genetics of Development and Diseases in Children Group. Her current research is funded by NSERC and the Health Sciences Centre Foundation.

Dr. Suresh Mysore

Dr. Suresh Mysore is a Medical Director in the Laboratory Program of the Winnipeg Regional Health Authority and the Laboratory Director at the Victoria General Hospital. Dr. Mysore received his early education in Edmonton and holds a BSc from the University of Alberta. He obtained a Medical degree from the University of Mysore in India and training in pathology at the Queen's University in Kingston, Ontario. Following a fellowship in pathology in Calgary, he taught pathology at the undergraduate and graduate level at the University of Saskatchewan. In 1993, he moved to Winnipeg where he worked in both community and teaching hospital environments before assuming his current position at Victoria General Hospital and the WRHA. In addition to his administrative duties and his practice as a full-time pathologist, he has represented the interests of Winnipeg pathologists in a variety of ways. Dr. Mysore is a qualified pathologist, licensed to practice in both Canada and the United States.

Dr. Digvir Jayas Named to Represent University of Manitoba

Dr. Digvir Jayas, Associate Vice-President (Research), University of Manitoba, was named by the University to replace Dr. Gary Glavin. Prior to assuming his current position, he was Associate Dean (Research) in the Faculty of Agricultural and Food Sciences. He also served as Head of the Department of Biosystems Engineering at the U of M. Dr. Jayas is recognized internationally for his research in biosystems engineering, in particular, his work on modified atmosphere storage of grains, oilseeds, potatoes and meats. He currently holds a Teir I Canada Research Chair in Stored-Grain Ecosystems. His research also includes studies on the physical properties of agricultural products; mathematical modelling of biological systems; and digital image processing for grading and processing operations in the agri-food industry. His research, which covers a broad spectrum from basic to applied, is supported by operating and strategic grants from NSERC and operating grants and contracts from the agri-food industry. Dr. Jayas has authored or co-authored over 300 technical articles in scientific journals, conference proceedings and books. He is co-author of a book entitled "Grain Drying: Theory and Practice" and the co-editor of a book entitled "Stored-Grain Ecosystems". Dr. Jayas has served on the executive or as a member of a host of national and local organizations. He currently serves on the Research Network Committee of NSERC and is president-elect of the Canadian Society of Engineering in Agriculture, Food and Biological Systems. Dr. Jayas is a Registered Professional Engineer and a Registered Professional Agrologist. He has received professional awards from the American Society of Agricultural Engineering, the Canadian Society of Agricultural Engineering, and the Association of Professional Engineers of Manitoba.

FACULTY OF MEDICINE RECOGNIZES MHRC'S CONTRIBUTION TO HEALTH RESEARCH

The Faculty of Medicine named MHRC the recipient of its 2002 Outstanding Service to Research Award during the Faculty's Research Day 2002. The award, which commemorates the 20th anniversary of the establishment of MHRC, recognized Council's important contribution to basic, clinical and applied research in the health sciences over the past 20 years. In presenting the award to Dr. Ian Smith, Chairperson of Council, Dr. Emöke Szathmáry, President of the University of Manitoba, remarked on the important contribution MHRC has played in the launch of research careers. "Getting funding from MHRC can set a career trajectory" noted the President. "At whatever level, beginning postdoctoral fellow, new academic, or established researcher, MHRC has been there to provide support – often critical support – for projects that have passed scrutiny by a panel of demanding experts". Dr. Szathmáry ended by pointing out that "The greatest gain, however, by the output of the research effort supported by MHRC is to the people of Manitoba, our nation and, ultimately, the world".

Over the 20-year period, MHRC has contributed over $34 million to the support of recently appointed faculty members, postdoctoral fellows and graduate students. In addition to its core-funded programs, MHRC also has contributed to the support of research and development in the health industry sector through the University-Industry program. Established in 1989, the U-I program, which is jointly funded with industry, has contributed another $10 million to projects of mutual benefit to industry and health scientists in the Province's universities. Since July 2000, MHRC has administered Manitoba's $1 M annual contribution to the CIHR Regional Partnerships Program, a research program that is supported by matching funds from the Canadian Institutes of Health Research and the Province.

Dr. Emöke Szathmáry, President of the University of Manitoba presents its 2002 Outstanding Service to Research Award to Dr. Ian Smith, Chairman of Council

DR. ALLAN RONALD HONORED BY MMA

Dr. Allan Ronald, an internationally renowned researcher, who first served on Council from 1985 to 1990, was Chairperson of Council from December 1988 to July 1990. He also served on Council, as one of the two members named by the University of Manitoba, from September 1997 to January 1999. Dr. Ronald currently resides in Uganda where he is sharing responsibility for leading an innovative program to create and research models of care for HIV patients with faculty in Internal Medicine and Paediatrics at Makere University.

Dr. Allan Ronald, whose ground-breaking work in the field of infectious diseases, in particularly AIDS, has had an impact worldwide, was recently honored for his outstanding contribution to medical research by the Manitoba Medical Association. The MMA presented Dr. Ronald with its Scholastic Award at its 2002 Annual Meeting. Dr. Ronald was first introduced to medical research during his BSc (Med) experience (summers of 1959 &1960) working in the laboratory of Drs. Zipursky and Israels. Their influence convinced him that a career combining clinical practice with research offered a very meaningful way to spend one's years. His decision to follow a career in academic medicine together with an interest in infectious disease, about which he had learned very little during his four years in medicine, lead him to Baltimore and one of the masters of infection diseases, Dr. Theodore Woodward. It was during this time that he was introduced to international work when he spent a year in Lahore, Pakistan, "carrying Dr. Woodward's bags" as he put it. The three years in Baltimore was followed by another three years in infectious diseases and microbiology in Seattle. In 1968, Dr. Jack Wilt invited Dr. Ronald to return to Winnipeg as a clinical microbiologist at the Winnipeg General Hospital. Dr. Wilt believed it was time to create more excitement in microbiology even though the then Dean of Medicine did not think "it would fly". Over the next 8 years, Dr. Ronald and colleagues introduced a training program in infectious diseases, persuaded the Faculty of Medicine to recruit additional personnel to the area and established the premier program in Canada. Over 80 physicians have received some or all of their training in this program over the past 30 years.

In 1978, Dr. Ronald was invited to Nairobi, Kenya to assist with an epidemic of chancroid (a venereal disease similar to syphilis). Three years later, Dr. Ronald and his colleagues took on a new challenge - HIV had arrived in Kenya. The group recruited incredibly capable Fellows, such as Dr. Frank Plummer, Director General, Canadian Science Centre for Human and Animal Health, to work and reside in Nairobi. The world soon began hearing about the amazing research and development programs in Kenya and the central role medical scientist and clinicians from the University of Manitoba played in them. Dr. Ronald recently acknowledged the important contribution MHRC made to the Kenyan project. *"MHRC came through on a number of occasions and supported ideas, individuals and summer students,"* says Ronald. *"One never knows how the world would have unfolded but we would have had a more complicated and challenging time if we had not been supported by MHRC and other Provincial funding agencies in the 1980's. We were still an unknown quantity and only 'friends' really believed we could pull it off in Nairobi."*

20TH ANNIVERSARY OF COUNCIL'S ESTABLISHMENT

The Act that gave legislative legitimacy to the establishment of the Manitoba Health Research Council was passed June 30, 1982. Hence, 2002 marks to 20th anniversary of the official establishment of MHRC. However, Council had operated for nearly two years (November 1980 to June 1982) without a formal Act of the Legislature. Three individuals, Drs. Lyonel Isreals, Frits Stevens and John Hamerton, who played key roles in the administration of MHRC and the promotion and support of research in the health sciences over the 18 years, 1980-1998, were invited to write brief accounts of their recollections of their relationship with Council.

THE BEGINNING – ESTABLISHMENT OF A HEALTH RESEARCH COUNCIL IN MANITOBA

Dr. Lyonel Israels, who played a key role in the establishment and early leadership of the Manitoba Health Research Council, generously agreed to contribute the following article dealing with the establishment of a Health Research Council in Manitoba. Dr. Israels was Chairperson of Council from its humble beginning in November 1980 to December 1986.

In early 1980, Dr. Arnold Naimark, Dr. Henry Friesen and I met with the Provincial Minister of Health, Bud Sherman, and his Acting Deputy Minister, Dr. George Johnson, to discuss the establishment of a Manitoba Health Research Council. We espressed concern that the absence of provincial funding compromised support and recruitment of young investigators to Manitoba and the retention of established scientists. Quebec, Ontario, Saskatchewan and Alberta all had established provincial funding to support health research placing Manitoba in a less competitive and disadvantaged position. Dr. Johnson, the Minister's principal advisor, who had previously served as Minister of Education and as Minister of Health, and subsequently was to become Manitoba's Lieutenant Governor, assured us that, dependent on the health care budget, the Department would attempt of initiate such a program within the current fiscal year.

Indeed a positive response was received in late November 1980. The Minister requested that I serve as the Chairperson with the appointment of other members of the new Council to follow. The Minister provided $300,000 of unexpended residual funds within the health budget to Council, with the proviso that the allocation of these monies be completed by April 1, 1981. Within this short time span, guidelines were to be formulated, application forms devised and an early competition arranged. On December 22, 1980 the first meeting of Council was held, and the interim terms of reference, as approved by Cabinet, were set forth. The guidelines contained the seminal statement that the role of Council be *"to promote and assist basic, clinical and applied research in the health sciences in Manitoba and to advise the Minister on health research related matters*".

To meet the deadline of April 1, 1981 only three months were available to both initiate and complete the first grants competition. A part-time secretary, located in a government office on Portage Avenue, was assigned to the project. Despite these constraints, Council embraced the decision with enthusiasm- the era of provincially funded health research had begun!

The major responsibility for assembling and chairing the first Scientific Review committee was assumed by Henry Friesen. One hundred and five applications were received (with a total request of $2.2 million). Council, operating within the allocated budget, funded 4 personnel awards and 16 operating grants covering a broad spectrum in medicine, dentistry, nursing, psychology and engineering.

In 1982, Council recruited Frits Stevens, a Professor in the Department of Biochemistry, as the first Executive Director. He proceeded to organize and preside over an efficient and effective office, now relocated to the Faculty of Medicine site. This move to the Bannatyne Campus was not without controversy; it was suggested that the Faculty of Medicine might enjoy a disproportionate influence on Council policy. Council strictly and conscientiously refrained from any bias in the operation of the office and allocation of funds.

Initially, MHRC was constituted without a formal act of the Legislature. Council next undertook the preparation of the Act that would provide legislative legitimacy to MHRC. A broad approach, free of unnecessary restrictions, was formulated and presented to Government. The Act received Royal assent on June 30, 1982.

In the second year of operation, the grant to MHRC was increased to $538,000. Early in the life of the Council, the need for a firm commitment to funding was addressed. Representation was made to the Government with the proposal that 0.4% of the total health care budget would provide an appropriate level of research funding for Manitoba and suggesting that this goal be achieved within a four to five year period. Although Council considered this to be a reasonable objective, it has yet to be realized.

Council's early years were marked with optimism and enthusiasm. We were committed to the recruitment of young research personnel to complement and sustain the activities of established programs essential to both basic health research and patient care. I left Council in December 1986 confident that it was destined to have a vital role in the scientific development of health care in Manitoba.

THE FIRST 15 YEARS - THROUGH THE EYES OF THE EXECUTIVE DIRECTOR

Dr. Frits Stevens, who served as the Executive Director of Council during the first 15 years following its establishment, was invited to submit the following article briefly summarizing his recollection of the first 15 years of MHRC history. In addition to serving as the part-time Executive Director of Council from June 1982 to July 1997, Dr. Stevens held an academic position in the Faculty of Medicine. At the time of his appointment as Executive Director, he was a full Professor in the Department of Biochemistry, a position he held until his retirement in 1998. From 1984 to 1987, he also was the Associate Dean of Research (Basic Sciences) for the Faculty of Medicine and from 1987 to 1992 the Head of the Faculty's Department of Biochemistry and Molecular Biology. He also served as a member of the University Senate, the President's Budget Advisory Committee, the University Staff Benefits Committee, and the University Pension Committee. In addition, he served on several national committees and associations. He was a member and for 3 years chairperson of the MRC (Canada) Biochemistry Grants Committee, an associate editor or the Canadian Journal of Biochemistry and a member of council of the Canadian Biochemistry Society. Dr. Stevens holds a Licentiate in Chemistry from the University of Ghent in Belgium and a PhD from the University of California (Davis). Following his PhD studies and prior to coming to the University of Manitoba, he spent 2 years as a postdoctoral fellow at the University of Brussels (Belgium) and 2 years at UCLA (California) and a year in the Belgian Army Medical Corps. Dr. Stevens, who retired from the University of Manitoba in 1998, was appointed as an Emeritus Professor in the Faculty of Medicine in 2000.

I did not know I would be embarking on a 15-year career when Dr. Lyonel Isreals asked me to consider the part-time position of Executive Director in June 1982. "Just a few weeks work a year and you'll have a secretary available to do some of your university work for you," he assured me. Prior to my joining MHRC, an ad hoc competition had taken place in 1981 with funds, made available by Manitoba Health, that had to be spent before the end of the Government's fiscal year. By the time the next competition, with an applications deadline of March 1, 1982, came around,

an awards guide, application forms and procedures for evaluating applications had been developed.

One of the most enjoyable aspects of the job was the opportunity to interact with many academic colleagues either as applicants or as "volunteer" members of the scientific review committees. It is a credit to the research community that so many individuals will generously donate their time and energy to make the peer review system work. During my tenure, I had the privilege of working with four chairpersons, with widely different management styles, and with three secretaries, who did the real work while gracefully putting up with my personality quirks. During this period, Council made its case to 5 different Ministers of Health. Table 1 provides a list of these individuals.

When I was asked to write something for this historic occasion, I really did not know how to tackle the job. After some reflection, I choose to provide some personal observations, reflections and commentary under a handful of headings.

Funding history –
It was always the understanding that the grant to Council would be a small part of the Department of Health's annual budget (the figure of 0.4% was mentioned most often). Applying this formula would have provided slightly over $10 million for the 2002-03 budget year. Table 2, which provides a summary of the funding history of MHRC, brings one back to reality. Initially, the Department of Health provided the entire funding allocated to MHRC. For a time, however, a part of the grant to MHRC came from revenues provided by "break-open tickets" sold in hotel beverage rooms. Originally this source of funding was the Provincial contribution to the St. Boniface General Hospital Research Foundation's research centre. When the revenue from this source surpassed the amount designated for the St. Boniface building fund, the surplus was divided between MHRC and either the Health Sciences Centre Foundation or Children's Hospital Research Foundation. Shortly after being designated for a portion of the revenue from break open tickets, sale of the tickets fell sharply so Council argued (successfully) that it should receive a share of general lottery revenues. In 1990 lottery revenues were merged with general Government revenues and MHRC returned to being funded exclusively by a grant from the Department of Health.

Arrival of the computer age –
The computer age arrived at MHRC during the 1985 Christmas holiday, in the form of a Kaypro II computer with a cpm operating system and Wordstar and dbase II software. During the holidays, I was able to develop integrated programs, which allowed us to make up application lists, mail merge letters to external referees, average referee's ratings, rank order applications for presentation to Council and mail merge letters to the applicants. These developments greatly reduced the office workload associated with the conduct of the annual grants and awards competition and made it possible to run the competition without hiring temporary secretarial help.

Review committees and procedures -
In the early years, there were only two scientific review committees: one for personnel awards and the other for operating grants and equipment awards. These committees were multidisciplinary in make-up and dealt with all areas of research in the health sciences; basic and clinical research, on the one hand, and social/population health research, on the other. Over the years, Council received many requests for separate review committees for these two broad disciplines. In 1986, Council instituted separate review committees for the basic and clinical

sciences and for the social/population sciences. Since Council retained its policy of not having separate funding envelopes for each category, a method had to be developed to ensure that the different review committees used the rating system in the same way. As a result, a small committee consisting of the review committee chairpersons and representatives from Council was established. This committee reviewed the ratings (mean and median scores, proportion of applications recommended for funding, etc.) by the different review committees and recommended adjustments to the ratings if deemed necessary. Surprisingly, this somewhat mysterious, empirical methodology has worked remarkably well over the years.

University-Industry program –
In 1989, the Federal Government passed Bill C22 (the Drug Patent Act) which included a commitment by drug companies to increase the amount spent on research in Canada. As one of the provisions of Bill C22, the Federal Government provided the provinces with $1 per inhabitant for each of 4 years to enable them to build up research infrastructures. In many provinces, including Manitoba, health research councils tracked the transfer of this money and attempted to negotiate a share for their programs. In Manitoba, the funds were transferred to the Department of Industry, Trade and Tourism which resulted in tripartite negotiations between Council, the Department of Health and the Department of Industry, Trade and Tourism. In the end, the totality of the funds was used to set-up the University-Industry program, a cost sharing program administered by Council, and a review committee, with representation from both the University of Manitoba and the private sector, was established to evaluate applications to the program.

I also had a pleasant personal experience, associated with the transfer of the first $ 2 million dollars from the Government to MHRC, while on vacation in Europe. One night, I returned to my hotel in Paris and the night clerk handed me a fax, which read "Received a cheque for $2 million. What shall I do? John Hamerton". My answer was simple, "Put it in the bank". I had the impression the hotel staff looked at me in a different way after that evening.

Why is the Buhler Building on top of the Brodie Centre? –
At the same time Health Sciences Centre Research Foundation and the Children's Hospital Research Foundation were planning their research building, the University of Manitoba was planning the Brodie Centre. Then Minister of Health, Don Orchard called a dinner meeting of the stakeholders, including MHRC, and expressed his desire for a single building and asked MHRC to function as convener to bring this about. Over the following summer, a series of meetings ensued. It suffices to say that there were divergent views and that the discussions were sometimes heated. Dr. John Hamerton, who was Chair of Council and Chair of the joint committee, had to use all of his diplomatic skills to stay the course. The committee was unable to reach a consensus and submitted both majority and minority reports to the Minister. The rest is history.

Time to exit –
Fifteen years is a long time in a part-time position, which would only take "a few weeks work a year". With the idea of retirement already imprinted on my mind and a lot of changes occurring in the way health research in Canada was being funded, I decided to resign before making too many enemies. It was a most enjoyable and rewarding part-time job and I have no regrets of having accepted Dr. Isreals' invitation to take on the Executive Director's position.

TABLE 1- MHRC Administration and Reporting Lines

DATE	CHAIRPERSON	MINISTER OF HEALTH	ADMINISTRATIVE SECRETARY
November 1980	Dr. Lyonel Israels	The Honourable Bud Sherman	
June 1982		The Honourable Larry Desjardins	Priscilla Loewen
September 1985			Lorraine Morley
December 1986	Dr. Kenneth Hughes		
September 1987		The Honourable Wilson Parasiuk	
May 1988		The Honourable Don Orchard	
December 1988	Dr. Allan Ronald		
July 1990	Dr. John Hamerton (Acting Chair)		
January 1991	Dr. John Hamerton		
March 1991			Liz Ford
September 1993		The Honourable James McCrae	
January 1997		The Honourable Darren Praznik	
July 1998	Dr. Ian Smith		
February 1999		The Honourable Eric Stephanson	
October 1999		The Honourable Dave Chomiak	

TABLE 2 – Funding History

DATE	*AMOUNT*
1981/1982	**300,000**
1982/1983	**538,000**
1983/1984	**700,000**
1984/1985	**763,000**
1985/1986	**1,496,000**
1986/1987	**1,603,000**
1987/1988	**1,482,000**
1988/1989	**1,796,000**
1989/1990	**1,947,300**
1990/1991	**1,947,300**
1991/1992	**1,947,300**
1992/1993	**1,947,300**
1993/1994	**1,752,600**
1994/1995	**1,752,600**
1995/1996	**1,752,600**
1996/1997	**1,752,600**
1997/1998	**1,752,600**
1998/1999	**1,752,600**
1999/2000	**1,752,600**
2000/2001	**1,752,600**
2001/2002	**1,752,600**
2002/2003	**1,752,600**

THE NINETIES – MANAGING IN AN ENVIRONMENT OF FISCAL RESTRAINT

Dr. John Hamerton's association with Council spanned half of its 20-year history. He was a member of Council for nearly a decade, November 1988 to July 1998, and served as chairperson of Council from July 1990 to July 1998. The following is an account of some of the highlights of the years he served as chairperson.

My term of office as Chairperson of MHRC was eventful and covered a period of severe fiscal restraint by both the Federal and Provincial governments. As a consequence, researchers in the Faculty of Medicine and other medical schools across Canada experienced severe difficulty in obtaining research funding. It also was marked by several changes in Council's core programs: the introduction of the University/Industry program, and the establishment of the Regional Partnerships Program. The latter was introduced in 1996 and was designed to assist researchers, who just missed the cut-off for MRC funding, in the four smaller provinces with medical schools, namely, Newfoundland, Nova Scotia, Manitoba and Saskatchewan. Initially the program required 2-to-1 matching by provincial agencies (later this was changed to 1-to-1 matching). Council elected to set aside funds from its limited budget to fund this program, which in my view enabled a number of excellent investigators to survive this period of severe fiscal restraint. However, the MHRC's budget was not increased to meet this need.

Two other events of note come to mind as I review my term on Council: the debate over the need for additional research space for the health sciences; and the development of a plan for the reorganization and expansion of role for MHRC. The research space issue involved establishment of a committee, advisory to then Minister of Health, Don Orchard, on additional research space atop the proposed Brodie Centre being planned by the University of Manitoba. MHRC was delegated responsibility for getting the stakeholders (viz., University of Manitoba, the Health Sciences Centre Foundation and the Children's Hospital Foundation) together and to come up with a recommendation to the Minister. I chaired the joint committee, which could not come to a consensus so a majority and a minority report was submitted to the Minister. In the end, the majority report prevailed and the John Buhler Research Centre was constructed atop the Brodie Centre. The proposed reorganization and restructuring of MHRC started with a strategic planning forum organized by MHRC and sponsored by EITC (Economic Innovation & Technology Council) in March 1994. The forum resulted in the formation of a Health Research Task Group involving academics, business people, volunteers and government officials. The Group, which met during the summer and fall of 1994, developed "*a strategic plan to manage health research in Manitoba*" that was presented to the Minister in June 1995. The plan was accepted but, sadly, still has not been implemented.

A highlight of my years on Council was the symposium entitled "Research for Future Health", organized by Council, and a memorable dinner hosted by the Lieutenant Governor at Government House marking the 10th anniversary of the formation of MHRC. I should like to close by thanking all of the members of Council who served during my 8 years as chairperson for their support and dedication. These people put in a tremendous amount of volunteer service in support of health research in the Province. Special thanks are due Dr. Frits Stevens, the Executive Director during most of my term, who put up with me (Bruce McDonald was hired as executive director in 1997 and I had the pleasure of working with him until I stepped down in 1998). Thanks also go to Liz Ford for her dedication and hard work during the whole of my term as chairperson.

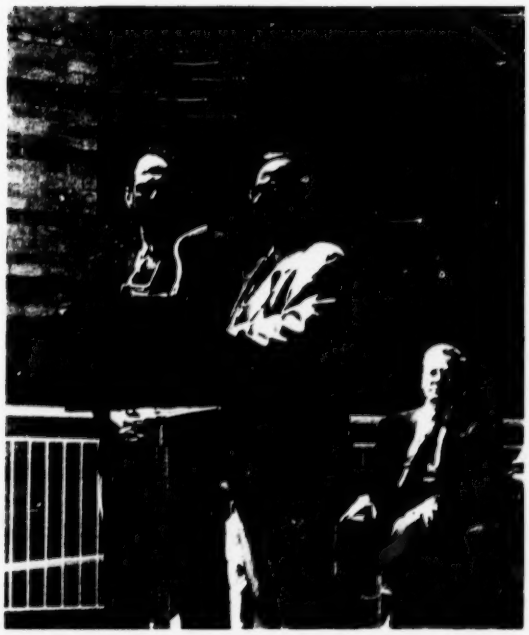
FIVE DISTINGUISHED SCIENTISTS HAVE CHAIRED MHRC

The Manitoba Health Research Council has been blessed with outstanding leadership from the time of its inception. Five distinguished research scientists and administrators, Dr. Lyonel Israels, Dr. Kenneth Hughes, Dr. Allan Ronald, Dr. John Hamerton and Dr. Ian Smith, have chaired Council for terms ranging from two to eight years. The chairperson of Council is named by Order-in-Council of the Province. The following brief biographies attest to the quality and dedicated service of these men.

Dr. Lyonel G. Israels, MD, PhD, MOC

Dr. Lyonel Israels was the first Chairperson of Council, a position he held from November 1980, nearly two years before the Province passed the Act giving legislative legitimacy to the Manitoba Health Research Council, until December 1986. Dr. Israels was a key mover in the getting the Province to establish a research council dedicated to the promotion and support of health research in Manitoba. In addition, he was the chief architect in drafting the Act that governs MHRC and in setting up the programs and the guidelines that have characterized MHRC's operation over the past 20 years. Dr. Israels received his MD and a MSc degree from the University of Manitoba. Following graduate training and positions in Salt Lake City, Zurich, Oxford and London, he returned to Winnipeg as an Assistant Professor in the Department of Biochemistry in the Faculty of Medicine. He subsequently moved to the Department of Medicine where he was promoted to the rank of Professor in 1966 and appointed a Distinguished Professor of the University in 1983. He was Acting Head of the Department for two years and he was Head of the University Section of Hematology from 1966 to 1986. Dr. Israels was instrumental the founding of the Manitoba Institute of Cell Biology and served as its first Director from 1969 to 1973. In 1973, he became Executive Director of the Manitoba Cancer Treatment and Research Foundation (now CancerCare Manitoba), a position he held for 20 years. Dr. Israels has published over 100 papers on hematological and related biochemical topics. Recently he completed the 3rd edition of Mechanisms in Hematology, a book and interactive CD that he co-authored with his wife Esther, an Associate Professor in the Department of Pediatrics and Child Health. Dr. Israels is a Member of the Order of Canada. Other honors and awards include the Manitoba Order of the Buffalo Hunt, the St. Boniface General Hospital Humanitarium Award, an Honorary Doctor of Science degree from the University of Manitoba and a Chair in Hematology at Ben Guron University in Israel.

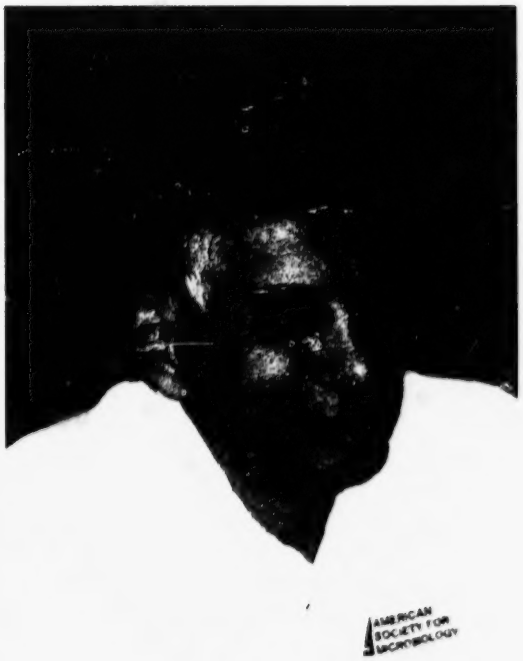
Dr. Kenneth H. Hughes, PhD



Dr. Ken Hughes presents Dr. Lorrie Kirshenbaumwith the KEN HUGHES YOUNG INVESTIGATOR AWARD FOR

Dr. Ken Hughes, who was appointed a member of the first Council of MHRC, served as Chairperson of Council from December 1986 to December 1988. Dr. Hughes obtained BSc and MSc degrees at the University of Manitoba and a PhD at the University of Chicago. He was recruited back to the University of Manitoba shortly after completing his PhD in 1961. His first appointment was in the Department of Psychology but he was soon invited to also join the Department of Physiology in the Faculty of Medicine, as a professor in neurophysiology by then Head, Dr. Joe Doupe. Dr. Hughes served as Acting Head of the Department of Physiology from 1971 to 1973 and Assistant Dean (Graduate Studies) in the Faculty of Medicine from July 1973 to December 1976. In January 1977, he assumed the position of Academic Provost for the University of Manitoba at the invitation of then President, Dr. Ralph Campbell. After five years as an Academic Provost, he was invited by Dr. John Wade, who was Dean of Medicine at the time, to returned to the Faculty of Medicine as Associate Dean (Research). A year later, he began his longest administrative appointment at the University of Manitoba, 14 years (1983-1997), as the Dean of the Faculty of Graduate Studies. His scientific achievements, his years of administrative service, and his interest and deep commitment to the next generation of scholars was recognized this year when the Faculty of Medicine named the "*young investigator award*" in his honour. The first recipient of the "Ken Hughes Young Investigator Award for Medical Research" is Dr. Lorrie Kirshenbaum, who was featured in the 2000-2001 MHRC Annual Report. Dr. Hughes, who retired from the University in 1997, holds an appointment as Dean Emeritus in the Faculty of Graduate Studies. He continues to provide service and direction to the health community as a member of the Provincial Imaging Advisory Committee and the Canadian Blood Services Board.

Dr. Allan R. Ronald, MD, PhD, OOC



Dr. Allan Ronald was Chairperson of Council from December 1988 to July 1990. Following completion of a MD at the University of Manitoba, Dr. Ronald went to Baltimore and Seattle for 3-year stints in infectious diseases and microbiology. He returned to Winnipeg in 1968 to a position as clinical microbiologist at the Winnipeg General Hospital. He was appointed Head of the Department of Medical Microbiology, Faculty of Medicine in 1976 and, in 1985, he was appointed Head of Internal Medicine. In 1993 he was appointed Associate Dean (Research), Faculty of Medicine by Dr. Anthonisen, then Dean of Medicine, a position he held for six years. Dr. Ronald made his first trip to Nairobi, Kenya in 1978 and shortly thereafter commenced the now famous research and development programs on AIDS. He is recognized internationally for his expertise in research and administration. He has been a reviewer of many university programs across Canada and has made six trips in the past four years to the University of Hong Kong. He currently is on a two-year assignment in Uganda. Dr. Ronald has received many awards in recognition of his service and leadership. He was made an Officer of the Order of Canada in 1994. Other awards include the Manitoba Alumni Award in 1990, the Royal Society Fellowship in 2000 and a Masters from the American College of Physicians in 2002. In 2001, he received a servant leadership award from the Christian Medical Society of Canada and in 2002, the Scholarship Award of the Manitoba Medical Association. He has authored or co-authored over 200 medical articles, 80 book chapters, and 130 reviews, monographs, editorials and project reports and has served on nine editorial boards.

Dr. John L. Hamerton, D.Sc., FCCMG, FRSC

Dr. John Hamerton, who was appointed to Council in December 1988, served as the Acting Chairperson from July 1990 to December 1990 and the Chairperson from January 1991 to July 1998. Dr. Hamerton received his early education in England. He holds a B.Sc. in Zoology from Imperial College of Science, Technology and Medicine and a D.Sc., for his sustained work in Human Genetics, from the University of London. Prior to coming to Canada in 1969, he worked for the Medical Research Council (England), the British Museum (Natural History) and the Paediatric Research Unit, Guys Hospital Medical School. He emigrated to Canada to take up appointments as an Associate Professor in the Department of Pediatrics at the University of Manitoba and as head of the Section of Genetics in the Children's Hospital. Dr. Hamerton was named head of the Department of Human Genetics in the Faculty of Medicine when it was formed in 1985. During his tenure at the University he also served as the Associate Dean (Research & Graduate Studies), Faculty of Medicine, from 1977 to 1988, was member of Senate from 1972 to 1996 and served three terms on the University's Board of Governors. He was appointed Distinguished Professor in 1987 and Distinguished Professor Emeritus on his retirement in 1996. Dr. Hamerton served as President of the Genetics Society of Canada and the American Society of Human Genetics and was Chair of the Board if the Canadian College of Medical Geneticists from 1991 to 1994. He was elected to Fellowship in the Canadian College of Medical Genetics in 1975 and the Royal Society of Canada in 1997.

Dr. Ian C.P. Smith, PhD, FRSC, FCIC, FISMRM

Dr. Ian Smith, Director General of the NRC Institute for Biodiagnostics (IBD), has been the Chairman of Council since July 1998. Dr. Smith began his university education at United College (now the University of Winnipeg). He went on to obtain BSc (Hons) and MSc degrees in chemistry from the University of Manitoba and a PhD in physical and theoretical chemistry in 1965 from the University of Cambridge. Following postdoctoral appointments at Stanford University and Bell Laboratories, he began his career with the National Research Council in Ottawa where he conducted research into the application of complex physical methods to problems of biological and medical significance. From 1987 to 1992, he was Director General of the NRC Institute for Biological Sciences in Ottawa. In 1992, Dr. Smith returned to Winnipeg to establish and build a new NRC institute, the Institute for Biodiagnostics. He is a very strong advocate for the interdisciplinary approach to the solution of scientific and medical problems. He has assembled a large team of researchers, with a very broad disciplinary background, including physicists, chemists, theoreticians, engineers, biologists and physicians. His goal is to establish a rational basis for the diagnosis and treatment of disease in humans, and to use this knowledge to advance the healthcare and economic viability of Canada. Dr. Smith is an Adjunct Professor of Physics, of Radiology, and of Anatomy at the University of Manitoba, where he supervises the research of graduate students, and an Adjunct Professor of chemistry at the University of Winnipeg. His current research is focused on the early diagnoses of cancer using magnetic resonance imaging and spectroscopy.

Dr. Smith is active in a multitude of international, Canadian and Manitoba councils, committees, boards, and professional organizations. In addition, to being the chairperson of MHRC, he is a member of the University of Manitoba Board of Governors, a member of the Premier of Manitoba's Advisory Board on Economic Development and a member and Chairman of the Premier's Task Force on Research and Development. In addition, he sits on the Board of Directors of a number of high tech companies and venture capital firms.

He is a Fellow of the Royal Society of Canada, the Chemical Institute of Canada, and the International Society for Magnetic Resonance in Medicine. He has been recognized for his achievements with honorary doctorates from the University of Stockholm in Sweden, the University of Winnipeg and Brandon University and an honorary diploma from Red River College. He received the Flavelle Medal of the Royal Society of Canada and the Merck and the Labatt Awards from the Chemical Institute of Canada. He also received the Ayerst Award from the Canadian Biochemical Society and the Barringer and the Herzberg Awards from the Spectroscopy Society of Canada.

THREE MHRC SUPPORTED RESEARCHERS RECOGNIZED FOR THEIR RESEARCH

Three individuals, who received MHRC establishment grants, were recently recognized for their research. Establishment grants are provided to newly appointed faculty members in order to allow them to focus on establishing their research program. Dr. Peter Nickerson and Dr. Spencer Gibson, Faculty of Medicine, are the 2002 Rh Awards recipients in the area of health sciences. Each year the Winnipeg Rh Institute Foundation presents up to six awards to researchers in the early stages of their research careers, who show exceptional innovation, leadership and promise in their field. Dr. Michelle Porter an Associate Professor in the Faculty of Physical Education and Recreation Studies and a Research Affiliate with the Centre on Aging is the 2002/2003 Centre on Aging Research Fellow. The Fellowship is awarded annually to a University of Manitoba faculty member to enable the recipient to increase their research activities on aging for a one-year period.

Dr. Peter Nickerson holds academic appointments in both Internal Medicine and Immunology at the University of Manitoba. He was awarded the 2002 Health Sciences (Clinical) Rh Award for his work on early markers of rejection in kidney transplant patients. He is currently working with Drs. Roxane Deslauriers, Ray Somorjai and colleagues at the NRC Institute for Biodiagnostic on non-invasive ways of detecting early signs of kidney transplant rejection. Present effort is centered on identifying compounds in the urine that might serve as early markers of subclinical rejection. "This research is very much a Manitoba story" notes Nickerson. The current studies are a follow-up to a study by Dr. David Rush and associates which found that treatment of subclinical rejections, detected by taking biopsies at regular intervals following transplant, "*lead to better outcomes in renal transplant patients*". Since biopsies are invasive and expensive and cannot be performed more often than once a month, Nickerson and Rush have turned to NMR analysis of urine as a possible early indicator of transplant rejection. Dr. Nickerson is grateful to MHRC for helping launch his research program. "When I returned to Winnipeg, support from MHRC was key to my being able to establish a laboratory and a research program." In addition to his research and clinical duties, Dr. Nickerson is Director of the Immunogenetics Laboratory at Canadian Blood Services (Winnipeg) and Director of the Immunology Sub-Program of the WHRA Lab Medicine Program. He also serves on a host of local, national and international committees. From 1998 to 2000, he was a member of MHRC's Personnel Review Committee, which reviews and recommends to Council on applications for graduate studentships and postdoctoral fellowships in the basic and clinical sciences. He is chair of the Kidney Foundation of Canada (Manitoba branch) research committee and a member of the CIHR Immunology review panel.

Dr. Spencer Gibson was awarded the 2002 Health Sciences (Basic) Rh Award for his research on apoptosis or in lay language "*programmed cell death*". Dr. Gibson is an Assistant Professor in the Department of Biochemistry and Medical Genetics and a Senior Investigator at the Manitoba Institute of Cell Biology, the research arm of CancerCare Manitoba. Prior to joining the University of Manitoba, he spent two years as a postdoctoral fellow at the National Jewish Medical Research Center (University of Colorado cancer center) in Denver. Apoptosis is an important issue in cancer development and treatment. Inappropriate cell growth can lead to the formation of tumors while therapies designed to kill cancerous cells frequently results in undesirable death of healthy cells. Dr. Gibson's research also is looking into cell survival. An understanding of the balance between cell death and cell survival and how these processes are regulated – genetically controlled– is extremely important in understanding and treating cancer. Dr. Gibson was awarded a 5-year CIHR New Investigator Award in 2001. He recently received funding from the Lymphoma and Leukemia Society of America for studies on a naturally occurring protein that targets and kills cancer cells. "Being awarded a MHRC Establishment Grant" says Gibson "allowed me to accelerate my research program to a point where I can compete successfully for national and international funding." Dr. Gibson currently serves as a member of MHRC's Operating Grants Review Committee; the committee that recommends to Council on applications for operating grants in the area of basic and clinical sciences.

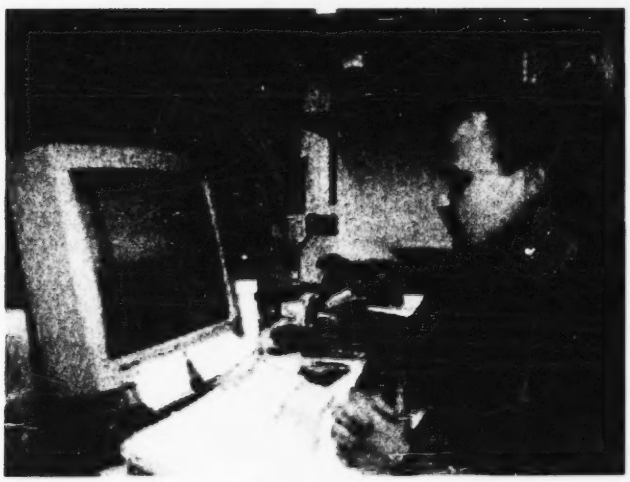
In addition to her academic position in Physical Education and Recreation Studies and affiliation with the Centre on Aging, **Dr. Michelle Porter** is a Research Affiliate with the Health, Leisure and Human Performance Institute and the Spinal Cord Research Centre at the University of Manitoba. Her research focuses on changes in driving behavior with age and the relationship of these changes to age-related neuromuscular changes. Accident rates increase among older drivers but whether age-related changes in neural function, muscle function or a combination of the two contribute in a major way is not known. Dr. Porter is attempting to gain answers to this question by comparing older drivers

(those over 70) to a younger cohort (30 to 50 years – thus avoiding the higher accident rate among those under 30). She uses global positioning (satellite) systems and digital video technology to gain information on driving performance, and laboratory tests to assess neuromuscular function. Concern with driving performance among older adults is gaining prominence. As "baby-boomers" move into older age groups, the number of vehicle accidents among this group and the accompanying added burden to the healthcare system are forecast to increase. Dr. Porter was recently invited to be a team member on CanDRIVE (the Canadian Driving Research Initiative for Vehicular Safety in the Elderly), a new emerging team program funded by the CIHR Institute of Aging. The principal investigator on the project is Dr. Malcolm Man-Son-Hing at the University of Ottawa. Dr. Porter used the MHRC establishment grant to help purchase equipment needed to assess neuromuscular function and to "buy-out" teaching time so she could spend more time on her research. She, also, is repaying Council and the health sciences community by serving on MHRC's Social/Population Health Review Committee, the committee which assesses applications in the social and population health areas.

THREE MHRC-AWARDEES MAKE MAJOR BREAKTHROUGHS

Over the past twenty years, MHRC has supported deserving graduate students and postdoctoral fellows. Many have gone on to distinguished research careers in the health sciences. Examples of the contributions of three individuals, whom Council awarded studentships or fellowships during the past four years, are summarized below. These individuals reflect the caliber of graduate students and postdoctoral fellows attracted to Manitoba and the quality of the training programs available here.

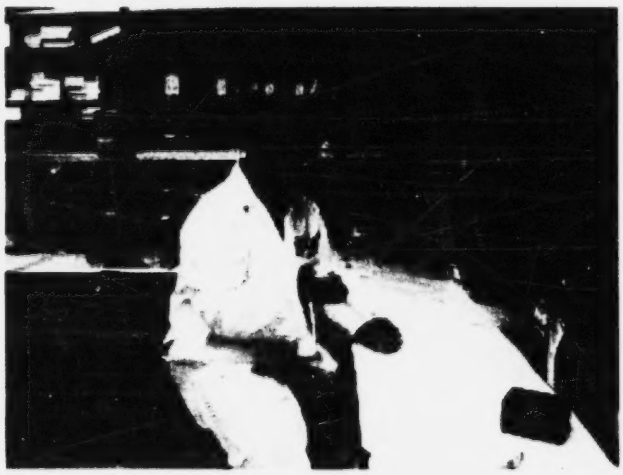
Significant breakthrough in Muscular Dystrophy research



Manitoba Health Research Council was among the agencies that supported research leading to the identification of a gene responsible for limb-girdle muscular dystrophy, type 2H (LGMD2H). The most recent award was a graduate studentship to Patrick Frosk who identified the gene. His discovery is reported in the March 2002 issue of the *American Journal of Human Genetics*. Patrick is registered in a PhD program in the Department of Biochemistry and Medical Genetics at the University of Manitoba. He is a native Winnipegger who did his undergraduate degree in Microbiology at the U of M. Following graduation, he worked for a year and half at the Cadham Provincial Laboratory and the National Microbiology Laboratory before entering graduate studies. MHRC also contributed to the project with a Regional Partnership Program (RPP) award to Dr. Klaus Wrogemann, the principal investigator on the project, and a graduate studentship to Ms. Tracy Weiler, who also worked on

the project. The RPP grant allowed Wrogemann and his team to begin work on the identification of the gene involved in LGMD2H. It was Tracy's work that mapped the gene to chromosome-9 and set the stage for Patrick to identify the gene. Limb-girdle muscular dystrophy is characterized by a gradual weakening of muscles in the pelvic and shoulder girdle. The identification of the gene for LGMD2H is a uniquely Manitoba story as the disorder was first described in 1976 in a group of Hutterite families. To date LGMD2H has been found mainly in Manitoba families, in contrast to other forms of muscular dystrophy which have a much more widespread distribution. Frosk also independently discovered the gene responsible for LGMD, type 2I (LGMD2I) but was scooped on the discovery by a group in England, which had identified the gene just before him but had not yet reported their discovery. Wrogemann and Frosk believe this is the first "single gene" disorder to be discovered in Manitoba for which the researchers had no idea where to look in the human genome or what function the gene might have when they started the search. Patrick recently presented his research to the 10th International Congress on Neuromuscular Diseases in Vancouver. His paper was selected for an oral presentation and was presented to a "standing room only" audience.

Growth factor may provide acute protection against ischemia



Dr. Zhi-Sheng Jiang, a postdoctoral fellow in Dr. Elissavet Kardami's laboratory at the Institute of Cardiovascular Sciences, St. Boniface General Hospital Research Centre, played a key role in what may be a major breakthrough in protection against myocardial infarction. Dr. Jiang and colleagues in Dr. Kardami's group discovered that administration of fibroblast growth factor-2 (FGF-2) directly into the myocardium, shortly after the onset of ischemia (localized anemia as a result of blocked arterial blood flow), conferred protection against cardiac damage. Of particular significance was the finding that FGF-2 provided acute protection to induced myocardial infarction (MI); injury to the heart was significantly reduced and heart function was improved when examined 24 hours after treatment. Furthermore, the decreased damage and improved function was still evident 6 weeks after MI. Dr. Kardami's group had previously shown that FGF-2 was protective if administered before they induced myocardial infarction. The significance of Jiang's finding is that it more closely parallels the scenario in a heart attack, where treatment is given during the development of infarction. Hence, there is a very good possibility that FGF-2 could have clinical applicability in the treatment of a heart attack. Dr. Jiang was invited to give an oral presentation of his findings by the organizers of the 2002 meeting of the American Section of the International Society for Heart Research. He also has been invited to speak to the Chinese Section of the Society. Dr. Jiang was supported by a MHRC postdoctoral fellowship, which enabled him to carry out his benchmark studies. The award has been renewed

by Council, which will allow him to continue his research in Dr. Kardami's lab for another year. A co-author on the paper describing the first part of Dr. Jiang's work (*Am J Physiol, 2002*) was Dr. Brad Doble, who was supported by a MHRC graduate studentship during his PhD studies. An interest aside to the present story centers around how Dr. Jiang came to the Institute of Cardiovascular Sciences. He was working on FGF-2 in his native China when he came across the work being carried out by Dr. Kardami and her group on the internet. He contacted Dr. Kardami about coming to work with her and as the saying goes 'the rest is history'.

Possible important advance in the understanding and treatment of type 2 Diabetes

Dr. Parissa Sadri with Dr. Wayne Lautt

Type 2 diabetes, with its ethnic, social and cultural roots, accounts for the bulk of the diabetes in our society and is rapidly becoming a major health problem in Manitoba and the developed world. Unlike type 1 diabetes which is the result of a lack of insulin, type 2 diabetes is characterized by normal or even elevated insulin levels. Also, unlike type 1 diabetes, which is known to be due to a failure of the pancreas to produce adequate insulin, the basis of type 2 diabetes, at least until recently, remained largely unknown. Research over the past 10 years by Dr. Wayne Lautt and his group has shown that, just as type 1 diabetes is due to a lack of insulin, type 2 diabetes appears to be due to the lack of a hormone produced in the liver. The hormone has been tentatively described as "hepatic insulin sensitizing substance" (HISS). In the fed-state (but not in the fasted-state), insulin, through a complex series of interactions involving parasympathetic nerves in the liver, stimulates the release of HISS which, in turn, stimulates glucose uptake by skeletal muscle. Insulin resistance in type 2 diabetes is primarily the result of a decrease in the ability of insulin to effect glucose uptake by skeletal muscle. If the findings by Dr. Lautt and his group hold up, their research could well be a major breakthrough in the understanding and treatment of type 2 diabetes. MHRC has supported the research on HISS through a graduate studentship to Dr. Parissa Sadri, who played a key role elucidating the mechanism for the release of HISS during her PhD studies, and a MHRC University-Industry grant to Dr. Lautt. "Dr. Sadri's work provided sufficient evidence regarding our ability to reverse insulin resistance in diabetes that it allowed us to form a company, DiaMedica Inc., located here in Winnipeg," says Dr. Lautt. Dr. Sadri, who is currently supported by a NSERC University-Industry Postdoctoral Fellowship, is continuing her research on HISS at Diamedica where "she is also learning business skills that will assist with the development of a pharmaceutical industry in Manitoba," notes Dr. Lautt. The Heart and Stroke Foundation of Manitoba recently awarded Dr. Lautt the 2002 Dr. R.E. Beamish Memorial Award in recognition of his outstanding contribution to research. This marked the third time that he has received the Beamish Memorial Award from Heart and Stroke.

MANITOBA AWARDED THREE CIHR TRAINING PROGRAM GRANTS

Three Manitoba groups were selected for national training program grants under the recently introduced Canadian Institutes of Health Research "Strategic Training Initiative in Health Research" program. Universities and other training centres in Canada were invited to submit letter-of-intent to CIHR for the establishment of training centres. On the basis of these LOI, 131 proposals, four from the University of Manitoba, were invited to submit full applications. Fifty-one proposals were awarded training program grants. The CIHR program is designed "to build a culture of creativity, innovation and transdisciplinary research within the next generation of health researchers". CIHR sees the provinces as important partners in the program through their support of research and training at universities and hospitals. Brief descriptions of the three Manitoba training programs that were awarded CIHR Training Program Grants follows. All three programs were awarded 6-year, $300,000 per annum grants. Trainees accepted into these programs will be eligible for MHRC awards. Hence MHRC was pleased to provide letters of support for the three applications. It is interesting to note that many members (local mentors and instructors) of the training programs have received MHRC support at one time or another during their career.

Strategic training program in microbiology and infectious diseases

The International Centre for Infectious Disease-Canadian Institutes of Health Research "Strategic Training Program in Microbiology and Infectious Diseases" focuses on providing a multidisciplinary training environment for trainees in microbiology and infectious diseases. The program is a partnership between ICID and CIHR. Other partners in the program include the University of Manitoba, Health Canada, the Winnipeg Regional Health Authority, the Province of Manitoba and Cangene Corporation. Head of the program is Dr. Frank Plummer, who is assisted by an advisory committee consisting of Drs. Kevin Coombs, Fred Aoki, Lawrence Elliott, John O'Neil, Brian Postl, Cheryl Kristjanson, Arnold Naimark, John Langstaff and Lorne Tyrell and Mr. Doug McCartney. Two trainees also will be named to the committee. A highlight of the multidisciplinary program is a core course, "The Ecology of Infectious Diseases", which is mandatory for all trainees. In addition, trainees will be required to complete a 3-4 month research practicum in an area of research that is different from their previous experience. Trainees will have access to ongoing research programs in Manitoba (at the University of Manitoba and the National Microbiology Laboratory), Kenya, India, British Columbia, Alberta, Saskatchewan, Ontario and new collaborations currently emerging in Pakistan and China. They will also be able to avail themselves of the new "Biosafety and Counter-Bioterrorism" program at the National Microbiology Laboratory. Trainees will be expected to compete for national awards and to publish their work and present it at local, national and international meetings. Plans call for acceptance of 5 clinical scientists, 6 postdoctoral fellows and 10 doctoral trainees into the program each year. Successful graduates will receive a special recognition certificate signed by the program director, Dr. Frank Plummer, and the President of CIHR, Dr. Alan Bernstein.

Program in innovative technologies in multidisciplinary health research training

The primary aim of the program in Innovative Technologies in Multidisciplinary Health Research Training is the development of a multidisciplinary program with an emphasis on emerging innovative technologies. The training program will focus on three areas: novel cutting-edge molecular imaging and analysis technologies; genome analyses through microarray technology; and functional genomics. The program, which is multinational and multidisciplinary in nature and has the support of key industry partners, is lead by Dr. Sabine Mai, Manitoba Institute of Cell Biology (MICB). Local scientist who join Dr. Mai as mentors and instructors include: Drs. James Davie, Spencer Gibson, Geoff Hicks and Leigh Murphy (MICB), Dr. Lyonel Israels (MICB & CancerCare Manitoba), Dr. Peter Watson (Dept. of Pathology), Dr. Barbara Triggs-Raine (Dept. of Biochemistry & Medical Genetics), and Dr. Kathy Gough (Dept. of Chemistry). Mentors and instructors from other centres in Canada, from the National Institutes of Health in the US, the University of Besançon in France, the German Cancer Research Centre in Heidelberg, Germany and the Karolinska Institute in Sweden also are involved with the program. Examples of industrial training partners involved in the program included: Applied Spectral Imaging (US & Israel), Carl Zeiss (Canada), MetaSystems (Germany & US), and Photonic Instruments (US). Trainees targetted for the program will include: clinical fellows, graduate students in the basic sciences, postdoctoral fellows, visiting fellows, MD/PhD students, residents, medical students, technicians and research associates. Approximately 25 trainees per year will participate in the program. In addition, high school students and their teachers will be included in the target group. The training program will impact on basic health research, biotechnology, intellectual property and medicine. In addition to research projects, the program will disseminate knowledge through seminars and workshops. Trainees from the program will have skills that impact many diverse fields, such as advanced molecular imaging, cancer, neurodegenerative diseases, genomics, patient-based research, and the development of new technologies and treatments. An Advisory Board will monitor the performance of the training program, at least once a year, and recommend changes and improvements.

Allergy and Asthma: molecular regulation to population health training program

The group that developed the Allergy and Asthma training program took a slightly different approach to that of the other two groups. Like the other programs, it is multidisciplinary and broadly focused (covers the four areas or "pillars" of health research described by CIHR, namely biomedical, clinical, health services & health systems, and health of populations – societal & cultural dimensions of health and environmental effects on health). However, the local core of mentors and instructors was deliberately kept small (8 members) to ensure a high level of commitment to the objectives of the training program. Members of the group have worked cooperatively in research and graduate and post-graduate training prior to setting up the training program. The Allergy and Asthma program is aimed at providing a national training program into the causes and the management of human allergic diseases and asthma. Allergic diseases, which have increased dramatically over the past three to four decades, have been identified as the most common chronic health problem in Canada. Treatment to date has been largely empirical. Hence, the urgent need to produce trainees who can develop new strategies to contain the growth in allergic sensitization and to more effective manage allergies and asthma in the health care systems. A primary aim of the program is to provide intensive, advanced training in allergy and asthma aimed at producing a cohort of research specialists in this area and to enrich the breadth of research training through exposure of clinical trainees to basic

sciences and to population health and visa versa. Trainees will be drawn primary from among MSc and PhD students, MD/PhD students. postdoctoral fellows and clinical fellows. Others trainees will include undergraduate summer students and BSc Med students, in formal training programs, and practicing physicians, lay members and associations with special interest in allergic diseases. The program team is lead by Dr. Kent HayGlass, Head, Department of Immunology. Other members of the scientific and academic staff include: Dr. Allan Becker (Pediatrics & Immunology); Dr. Andrew Halayko (Physiology & Internal Medicine); Dr. Anita Kozyrskyj (Pharmacy, Community Health Sciences & Pediatrics); Dr. Aaron Marshall (Immunology); Dr. Estelle Simons (Pediatrics & Immunology); Dr Abdel Soussi-Gounni (Immunology); and Dr. Xi Yang (Medical Microbiology & Immunology).

PURPOSE AND OVERVIEW OF PROGRAMS

1. PURPOSE

Established by an Act of the Legislature June 30, 1982 to promote and assist basic, clinical and applied research in the health sciences in Manitoba and advise the Minister on health research matters referred to Council.

2. FUNDING

Core Programs: These programs have been funded by grants from the Department of Health and the Manitoba Lotteries Foundation. Funding for 2001/02 was $1,752,600 from the Department of Health budget.

University-Industry Program: This program is supported by a fund established with monies transferred by the Federal Government to the Province as a result of Bill C-22 (act to amend the drug patent act). Once these funds have been expended, no future funding source has been identified to allow continuation of this economically extremely important program.

Partnership Programs: The program provides partnership awards (matching funds) to individuals who have been awarded Canadian Institutes of Health Research Regional Partnership Program (CIHR-RPP) operating grants or personnel awards. Funding for this program is made available through the Department of Industry, Trade and Mines.

3. CORE PROGRAMS

Establishment Grants: Establishment Grants are provided to recently recruited faculty members who show exceptional promise to focus on establishing their research programs. The awards, for up to $100,000 to be used within a 3-year period, provide support for a variety of purposes, e.g., buy-out of teaching time, salary for research personnel (other than the applicant's salary), purchase of equipment and supplies, etc.. Council normally does not consider applications for Establishment Grants from individuals who have been independent researchers for more than four years.

Operating Grants: Investigators who hold an academic appointment at the Assistant Professor (or equivalent) rank or above in the Province for a period of not more than five years are eligible to apply. Operating grants are designed to defray the normal costs of research. Grants are awarded for either one or two years.

Postdoctoral Fellowships: A limited number of fellowships are available to qualified candidates with a doctoral degree whose prior postdoctoral research training normally does not exceed 3 years.

Graduate Studentships: A limited number of studentships are offered to qualified graduate students who are undertaking full-time Master's or Doctoral programs in the Province of Manitoba. However, in disciplines where training at the doctoral level is not available within the Province, Council will consider funding elsewhere if documented evidence is provided confirming the unavailability of Provincial training opportunities, a need in Manitoba for individuals with the training and a firm intent to return to the Province after training.

PhD Dissertation Awards: Dissertation awards are provided to students enrolled in a PhD program in population health or health-related social sciences in Manitoba who have completed all relevant course work and whose dissertation proposal has been approved by their PhD Advisory Committees. The awards, for up to $5,000, are to be used to cover costs incurred in the conduct of the students' dissertation research.

Bridge Funding: Bridge funding awards are once only, one-year awards designed to allow experienced, productive investigators, who have lost funding from a major national agency, to maintain their research operation while they attempt to regain national funding.

2001 - 2002 FISCAL EXPENDITURES OVERVIEW

TOTAL EXPENDITURES

	AMOUNT	%
TOTAL	**$ 2,910,341**	**100.0**
Grants and Awards	$ 2,773,379	95.3
Administration	$ 136,962	4.7

ADMINISTRATION

	AMOUNT	%
TOTAL	**$136,962**	**100.0**
Salaries	$118,803	86.8
Supplies & Equipment	$ 4,835	3.5
Miscellaneous	$ 13,324	9.7

GRANTS AND AWARDS

	#	AMOUNT	%
TOTAL		**$2,773,379**	**100.0**
Establishment Grants	15	453,000	16.4
Postdoctoral Awards	9	326,000	11.8
Studentship Awards	26	416,000	15.0
Operating Grants	14	733,850	26.5
Bridge Funding Grants	1	20,000	0.1
Regional Partnership Grants	22	821,529	29.7
University/Industry Grants	1	3,000	0.1

THE MANITOBA HEALTH RESEARCH COUNCIL

MANAGEMENT REPORT

The accompanying financial statements are the responsibility of management and have been prepared in accordance with generally accepted accounting principles. In management's opinion the financial statements have been properly prepared and of necessity include some amounts based upon management's best estimates and judgements.

As management is responsible for the integrity of the financial statements, management has established systems of internal control to provide assurance that assets are properly accounted for and safeguarded from loss.

B.E. McDonald, Ph.D, FCIFST
Executive Director
July 31, 2002

Day & Company

Ken E. Day, Chartered Accountant Inc.
Business Development Professionals

100-1002 St. Mary's Road
Winnipeg, Manitoba R2M 3W5

Tel: (204) 985-6767
Fax: (204) 254-2666
E-mail: ken@kendaycpa.ca

July 31, 2002

AUDITOR'S REPORT

To the Legislative Assembly of Manitoba:

I have audited the statement of financial position of **The Manitoba Health Research Council** as at March 31, 2002 and the statements of revenue, expenditures and fund balances and changes in cash flows for the year then ended. These financial statements are the responsibility of Management. My responsibility is to express an opinion on these financial statements based on my audit.

I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I plan and perform an audit to obtain reasonable assurance whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation.

In my opinion, these financial statements present fairly, in all material respects, the financial position of The Manitoba Research Council as at March 31, 2002 and the results of its operations for the year then ended in accordance with Canadian generally accepted accounting principles.

Day & Company

Chartered Accountant

CA

THE MANITOBA HEALTH RESEARCH COUNCIL

STATEMENT OF FINANCIAL POSITION

MARCH 31	2002	2001
ASSETS		
Current		
Cash	$ 16,878	$ 7,509
Short-term investments		
(market value $1,118,192, 2001 - $1,167,108)	1,276,569	1,124,922
Accounts receivable		282,146
Accrued interest receivable	57,649	51,221
Prepaid insurance	1,557	
Deposits	500	500
	1,353,153	1,466,300
Capital assets, at cost (note 2)		
Office equipment	6,375	6,375
Computer equipment	2,515	2,515
	8,890	8,890
Less - Accumulated amortization	(4,793)	(3,769)
	4,097	5,121
	$ 1,357,250	$1,471,421
LIABILITIES		
Current		
Accounts payable and accrued liabilities	$ 7,159	$ 22,008
Research grants payable	721,915	660,215
	729,074	682,223
Non-current research grants payable	-	28,500
	729,074	710,723
Future commitments of the Research Fund (note 3)		
FUND BALANCES		
General Research Fund	131,751	367,792
Regional Partnership Fund	106,022	8,800
Strategic Health Research Development Fund	390,403	384,106
Total fund balances	628,176	760,698
	$ 1,357,250	$1,471,421

APPROVED BY THE BOARD

_____ **Director**

_____ **Director**

[illegible] PAY & COMPANY

See Accompanying Notes

THE MANITOBA HEALTH RESEARCH COUNCIL

STATEMENT OF REVENUE, EXPENDITURES AND FUND BALANCES

YEAR ENDED MARCH 31

	General Research Fund	Regional Partnership Fund	Strategic Health Research Development Fund	2002 Total	2001 Total
REVENUE					
Province of Manitoba - Grant	$ 1,752,600	$ -	$ -	$ 1,752,600	$1,752,600
Regional Partnership Grant	-	866,292	-	866,292	992,391
Grants and awards returned / rescinded	42,531	46,474	-	89,005	23,308
Interest	20,400	26,529	22,993	69,922	80,624
	1,815,531	939,295	22,993	2,777,819	2,848,883
EXPENDITURES					
Personnel awards	742,000	77,000	-	819,000	768,717
Research grants	1,206,850	744,529	3,000	1,954,379	1,911,011
Administration (schedule)	102,722	20,544	13,696	136,962	115,069
	2,051,572	842,073	16,696	2,910,341	2,816,797
Excess (deficiency) of revenue over expenditures	(236,041)	97,222	6,297	(132,522)	32,086
FUND BALANCES					
Fund balances, beginning	367,792	8,800	384,106	760,698	728,609
Fund balances, ending	$ 131,751	$ 106,022	$ 390,403	$ 628,176	$ 760,698

[illegible] HAY & COMPANY

See Accompanying Notes and Schedule

THE MANITOBA HEALTH RESEARCH COUNCIL

STATEMENT OF CHANGES IN CASH FLOWS

YEAR ENDED MARCH 31	2002	2001
Operating activities		
Excess (deficiency) of revenue over expenditures	$ (132,522)	$ 32,091
Amortization not requiring a current outlay of funds	1,024	1,280
	(131,498)	33,371
Net change in non-cash working capital balances		
Increase in short-term investments	(151,647)	(266,314)
(Increase) decrease in accounts receivable	282,146	(272,833)
Increase in accrued interest receivable	(6,426)	(10,944)
Increase in prepaid insurance	(1,557)	-
Increase (decrease) in accounts payable and accrued liabilities	(14,849)	15,575
Increase in current research grants payable	61,700	517,504
	169,367	(17,012)
	37,869	16,361
Financing activities		
Decrease in non-current research grant	(28,500)	(13,500)
Increase in cash during the year	9,369	2,861
Cash, beginning of year	7,509	4,648
Cash, end of year	$ 16,878	$ 7,509

PAY & COMPANY

See Accompanying Notes

THE MANITOBA HEALTH RESEARCH COUNCIL

NOTES TO FINANCIAL STATEMENTS

MARCH 31, 2002

1 **Incorporation and function**
The Manitoba Health Research Council was established by The Manitoba Health Research Council Act to promote and assist basic, clinical and applied research in the health sciences in Manitoba. The Council relies entirely on grants from the Province of Manitoba and its agencies. The Manitoba Health Research Council is a registered charity within the meaning of the Income Tax Act.

2 **Significant accounting policies**

Fund accounting
The Manitoba Health Research Council follows the restricted fund method of accounting for contributions.

The Strategic Health Research Development Fund reports only restricted resources that are used for qualified research and development projects in the health industry sector in Manitoba. Grants awarded to qualified researchers must be matched by private sector grants awarded to those researchers. Grants and awards are recorded as an expenditure in the year the commitment is made regardless of when the grant will be paid out.

The General Research Fund and Regional Partnership Fund report only restricted resources that are used for research purposes.

Capital assets
Capital assets are amortized at rates and methods designed to write off the assets over their estimated useful lives as follows:

Office equipment	20% diminishing balance
Computer equipment	20% diminishing balance

Short-term investments
Short term investments are carried at the lower of cost and market value.

Interest revenue
Interest revenue is allocated proportionately to the Funds on the basis of monthly Fund balances.

Research grants and Regional Partnerships Awards
Research grants and Regional Partnerships Awards are charged to expenditures when funding is committed by Council. Research grants returned to or rescinded by the Council are recorded as revenues when received or rescinded.

Personnel Awards
Personnel awards and their renewals are charged to expenditures when funding is approved by Council.

Administration Expenditures
Administration expenditures are allocated 75% (2001-90%) to the General Research Fund, 15% (2001-0%) to the Regional Partnership Fund and 10% (2001-10%) to the Strategic Health Research Development Fund.

3 Future commitments of the Research Fund

The Manitoba Health Research Council has committed grants and awards under the General Research Fund and the Regional Partnership Fund as follows:

Year	General Research Fund	Regional Partnership Fund	Total
2003	$ 1,019,750	$ 250,460	$ 1,270,210
2004	98,400	77,000	175,400
2005	-	77,000	77,000
	$ 1,118,150	$ 404,460	$ 1,522,610

Future commitments of the General Research Fund and Regional Partnership Fund are not recorded as an expenditure in the year of commitment.

These commitments are funded as follows:

Current General Research Fund Balance	$ 131,751
Current Regional Partnership Fund Balance	106,022
Future provincial government funding	1,284,837
	$ 1,522,610

4 Related party transactions

Office accommodation is provided at no charge by the University of Manitoba.

In addition to those related party transactions disclosed elsewhere in these financial statements, the Council is related to all Province of Manitoba departments and agencies. The Council enters into transactions with these entities in the normal course of business.

THE MANITOBA HEALTH RESEARCH COUNCIL

Schedule

ADMINISTRATION EXPENDITURES

YEAR ENDED MARCH 31	2002	2001
Amortization	$ 1,024	$ 1,280
Audit	3,500	2,200
Bank charges	279	175
Council and committee expenses	1,604	1,855
Goods and Services Tax	350	217
Insurance	2,758	2,975
Office maintenance	1,004	436
Postage and delivery	1,546	1,436
Printing and stationery	4,835	2,789
Salaries and benefits	118,803	100,593
Telephone	1,259	1,101
	$ 136,962	$ 115,057

DAY & COMPANY

GENERAL COMPETITION

OPERATING / ESTABLISHMENT GRANTS
SCIENTIFIC REVIEW COMMITTEE

Dr. Peter Cattini, Chairman
Department of Physiology, Faculty of Medicine
University of Manitoba

Dr. Pavel Dibrov
Department of Microbiology, Faculty of Science
University of Manitoba

Dr. David Eisenstat
Manitoba Institute of Cell Biology
Department of Pediatrics & Child Health, Faculty of Medicine
CancerCare Manitoba

Dr. Heinz Feldmann
Department of Medical Microbiology, Faculty of Medicine
Canadian Science Centre for Human and Animal Health

Dr. Yuewan Gong
Department of Internal Medicine, Faculty of Medicine
University of Manitoba

Dr. Geoff Hicks
Manitoba Institute of Cell Biology
Department of Biochemistry & Medical Genetics, Faculty of Medicine
CancerCare Manitoba

Dr. Asad Junaid
Department of Internal Medicine, Faculty of Medicine
St. Boniface Hospital Research Centre

Dr. Jim Peeling
Department of Pharmacology, Faculty of Medicine
University of Manitoba

Dr. Donald Smyth
Department of Pharmacology, Faculty of Medicine
University of Manitoba

Dr. Ursula Tuor
Institute of Biodiagnostics
National Research Council

Dr. Barbara Triggs-Raine
Department of Biochemistry & Medical Genetics, Faculty of Medicine
University of Manitoba

PERSONNEL REVIEW COMMITTEE

Dr. Donald Houston, Chairman
Manitoba Institute of Cell Biology
CancerCare Manitoba

Dr. Asher Begleiter
Manitoba Institute of Cell Biology
CancerCare Manitoba

Dr. Hani El-Gabalawy
Department of Internal Medicine, Faculty of Medicine
University of Manitoba

Dr. Elissavet Kardami
Department of Human Anatomy & Cell Science
St. Boniface Hospital Research Centre

Dr. Valery Kupriyanov
Institute for Biodiagnostics
National Research Council

Dr. Peter Nickerson
Department of Immunology, Faculty of Medicine
University of Manitoba

Dr. Hélène Perreault
Department of Chemistry, Faculty of Science
University of Manitoba

Dr. Elliott Scott
Department of Oral Biology, Faculty of Dentistry
University of Manitoba

Dr. Jerry Vriend
Department of Human Anatomy & Cell Science, Faculty of Medicine
University of Manitoba

Dr. Sheryl Zelenitsky
Faculty of Pharmacy
University of Manitoba

SOCIAL/POPULATION HEALTH REVIEW COMMITTEE

Dr. Juliette Cooper, Chairwoman
Department of Medical Rehabilitation, Faculty of Medicine
University of Manitoba

Dr. Brian Cox
Department of Psychiatry, Faculty of Medicine
University of Manitoba

Dr. Lawrence Elliott
Department of Community Health Sciences, Faculty of Medicine
University of Manitoba

Dr. Annette Gupton
Faculty of Nursing
University of Manitoba

Dr. Alan Katz
Department of Family Medicine, Faculty of Medicine
St. Boniface Hospital

Dr. Verena Menec
Department of Community Health Sciences, Faculty of Medicine
University of Manitoba

Dr. Patricia Martens
Department of Community Health Sciences, Faculty of Medicine
University of Manitoba

Dr. Michelle Porter
Faculty of Physical Education & Recreation Studies
University of Manitoba

Dr. Bruce Tefft
Department of Psychology, Faculty of Arts
University of Manitoba

OPERATING & ESTABLISHMENT GRANTS

NEW ESTABLISHMENT GRANTS

Investigator, Department, Institution. **Project or Field of Research.**	**Award**
Civetta, Alberto, Department of Biology, University of Winnipeg. Constraints and adaptive nucleotide changes affecting fertility in humans.	$42,000.00
Iwasaki, Yoshi, Faculty of Physical Education & Rec. Studies, University of Manitoba. Investigating the contributions of leisure to coping with stress and enhance health above and beyond the effects of general coping not directly associated with leisure.	$29,600.00
Marshall, Aaron, Department of Immunology, University of Manitoba. Novel genes regulating B lymphocyte activation and differentiation.	$58,500.00
Valdimarsson, Gunnar, Department of Zoology, University of Manitoba. The role of gap junctions in normal embryonic development and in the etiology of disease.	$47,700.00
TOTAL	**$177,800.00**

ESTABLISHMENT GRANT RENEWALS

Investigator, Department, Institution. **Project or Field of Research.**	**Award**
Amara, Francis, Division of Alzheimer's Disease, St. Boniface Hospital Research Centre. Postranscriptional regulation of the Alzheimer precursor protein mRNA by transforming growth Factor –B.	$25,000.00
Eisenstat, David D., Section of Pediatric Oncology, CancerCare Manitoba. Neuronal differentiation during development and in pediatric malignancies.	$32,000.00
Fowke, Keith R., Department of Medical Microbiology, University of Manitoba. Mechanisms of rapid disease progression in HIV infection.	$18,500.00

Investigator, Department, Institution. **Project or Field of Research.**	**Award**
Gibson, Spencer B., Manitoba Institute of Cell Biology,CancerCare Manitoba. Identify MEKK1 and AKT signal tansduction pathways leading to the regulation of apoptosis.	$27,000.00
Halayko, Andrew J., Department of Physiology,University of Manitoba. Elucidate cellular and molecular mechanisms that regulate airway myocyte phenotype and function, and to understand the significance of these mechanisms in the contribution of airway smooth muscle cells to the pathogenesis of asthma.	$21,500.00
Hicks, Geoffrey , Manitoba Institute of Cell Biology, CancerCare Manitoba. Development of an embryonic stem cell library of defined mutations.	$27,000.00
Leygue, Etienne, Department of Biochemistry & Medical Genetics, University of Manitoba. Mammaglobin and lipophilin related molecules in normal and tumor human breast tissue: expression, hormone regulation and fuctional analysis.	$33,200.00
Mesaeli, Nasrin, Division of Stroke & Vascular Disease, St. Boniface Hospital Research Ctr. Role of calreticulin in vascular smooth muscle Ca homeostasis.	$39,000.00
Porter, Michelle, Faculty of Physical Education & Recreation Studies, University of Manitoba. Neural contributions to lengthening contractions as assessed by functional magnetic resonance imaging and isokinetic dynamometry.	$8,000.00
Weiler,Hope A., Department of Foods & Nutrition,University of Manitoba. Relationships among fatty acid nutrition, body composition, medical therapy and growth, bone health and development at both the whole body and biochemical level.	$24,000.00
Yang, Xi , Department of Medical Microbiology, University of Manitoba. Study of the roles played by cytokines/chemokines in allergy and infection and development of immunoprophylactic approaches for these diseases.	$20,000.00
TOTAL	**$275,200.00**

NEW OPERATING GRANTS

Investigator(s), Department, Institution. Project or Field of Research.	**Amount**
Glazner, Gordon, Department of Pharmacology, University of Manitoba. Examination of a novel NF-kB signaling pathway in neurons.	$47,500.00
Iwasaki, Yoshi, Faculty of Physical Education & Recreation Studies, University of Manitoba. Contributions of leisure to coping with stress, health and psychological wellbeing.	$45,000.00
Mayne, Michael, Department of Pharmacology & Therapeutics, University of Manitoba. Role of HHV-6 chemokine U83 in regulating proinflammation.	$52,000.00
Marshall, Aaron, Department of Immunology, University of Manitoba. Role of a novel secreted peptide FDC-SP in regulation of B Lymphocytes	$50,000.00
Tappia, Paramjit, Institute of Cardiovascular Sciences, St. Boniface Hospital Research Ctr. Pathophysiology of phospholipase C mediated signaling during cardiac hypertrophy and heart failure.	$43,000.00
Tate, Robert, Department of Community Health Sciences, University of Manitoba. The Manitoba Follow-up Study: Beyond fifty years.	$95,000.00
Yang, Xi, Department of Medical Microbiology, University of Manitoba. Mechanisms of protection and pathology in Chlamydial infection.	$68,250.00
TOTAL	**$400,750.00**

OPERATING GRANT RENEWALS

Investigator(s), Department, Institution. Project or Field of Research.	**Amount**
Dibrov, Pavel, Department of Microbiology, University of Manitoba. Cloning and characterization of the specific Na+/H+ antiporter, NhaD in Vibrio cholerae.	$51,000.00
Fowke, Keith R., Department of Medical Microbiology, University of Manitoba. Mechanisms of rapid disease progression in HIV infection.	$50,000.00
Halayko, Andrew J., Department of Physiology, University of Manitoba. Airway smooth muscle cell phenotype and heterogeneity: the role of laminin in post-transcriptional regulation.	$45,000.00

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Hicks, Geoff, Manitoba Institute of Cell Biology, Cancer Care Manitoba. Molecular mechanisms of TLS in the maintenance of genomic stability.	$55,000.00
Leygue, Etienne, Department of Biochemistry and Medical Genetics, University of Manitoba. Mammaglobin and lipophilin related molecules in normal and tumor human breast tissue: expresssion, hormone regulation and functional analysis.	$52,000.00
Martens, Patricia J., Department of Community Health Sciences, University of Manitoba. Evaluating the effectiveness of breastfeeding promotion strategies in rural Manitoba - a First Nations community and a Rural Health Authority.	$21,500.00
Mesaeli, Nasrin, Division of Stroke & Vascular Disease, St. Boniface Hospital Research Ctr.. Role of calreticulin in vascular smooth muscle Ca homeostasis.	$58,600.00
TOTAL	**$333,100.00**

BRIDGE FUNDING AWARD

Investigator(s), Department, Institution. Proiect or Field of Research.	Amount
Pind, Steven, Department of Biochemistry and Medical Genetics, University of Manitoba. Characterization of 3-Phosphoglycerate dehydrogenase in health and disease.	$ 20,000.00
TOTAL	**$20,000.00**

REGIONAL PARTNERSHIP AWARDS – OPERATING GRANTS

Investigator(s), Department, Institution. Proiect or Field of Research.	Amount
Arthur, Gilbert, Department of Biochemistry & Medical Genetics, University of Manitoba. The role of phosphatidylethanolamine in cell growth.	$34,611.00
Choy, Patrick, Department of Biochemistry & Medical Genetics, University of Manitoba. Control of arachidonate release by phospholipase A2.	$27,479.00

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Dawes, Colin, Department of Oral Biology, University of Manitoba. Studies on dental plaque and saliva.	$28,623.00
Duckworth, Henry, Department of Chemistry, University of Manitoba. The mechanistic basis of allostery in hexameric citrate synthase and the development of specifically designed inhibitors.	$58,553.00
El-Gabalawy, Hani, Department of Internal Medicine, University of Manitoba. Synovial cell responses to hypoxia: Potential role in the pathogenesis and persistence of inflammatory arthritis.	$47,320.00
Evans, Jane , Department of Biochemistry & Medical Genetics, University of Manitoba. Patterns of birth defects.	$29,643.00
Gartner, John, Department of Pathology, University of Manitoba. Pathologic mechanisms of intestinal graft-vs-host disease (GVHD).	$39,514.00
Gilchrist, James, Oral Biology, St. Boniface Hospital Research Foundation. Calcium handling mechanisms in sarcoplasmic reticulum membranes.	$36,835.00
HayGlass, Kent, Department of Immunology, University of Manitoba. Chemokines in immune regulation of human allergic disease.	$51,398.00
Kupriyanov, Valerian, Institute for Biodiagnostics, National Research Council. Visualization of cardiac ischemia and infarction using 87Rb-MRI, contrast agent-aided 1H-MRI and optical imaging in vivo.	$28,413.00
Lekic, Charles, Department of Dental Diagnostic & Surgical Sciences, University of Manitoba. Fate and differentiation of periodontal ligament cells.	$33,214.00
Leslie, B., Department of Internal Medicine, St. Boniface Hospital. First Nations bone health study. (FNBHS)	$88,199.00
Mayne,Michael, Department of Pharmacology,St. Boniface Hospital Research Ctr. Role of HHV-6 chemokine U83 in regulating pro-inflammation.	$47,322.00
Nance, Dwight, Department of Pathology,Faculty of Medicine University of Manitoba. Neural regulation of cutaneous inflammation and immunity after spinal cord injury.	$40,615.00

Investigator(s), Department, Institution. Project or Field of Research.	Amount
Ogborn, Malcolm, Department of Pediatric Nephrology, Health Sciences Centre. Nutritional alteration in prevention, metabolism and diagnosis of chronic renal failure.	$5,313.00
Parkinson, Fiona, Department of Pharmacology & Therapeutics, University of Manitoba. Adenosine permeation of an in vitro blood-brain barrier.	$21,622.00
Singal, Pawan, Department of Physiology, St. Boniface Hospital Research Centre. Vitamin A depletion and oxidative stress in cell death and heart failure.	$35,381.00
Sitar, Daniel, Department of Pharmacology & Therapeutics, University of Manitoba. Control of kidney function.	$31,214.00
Wylie, John, Department of Medical Microbiology, Cadham Provincial Laboratory. Social networks and infectious disease: Social and sexual behaviours within sexually transmitted disease networks in Manitoba.	$23,729.00
Ye, J., Department of Biochemistry & Medical Genetics, University of Manitoba. Brain protection during circulatory arrest.	$35,531.00
TOTAL	**$744,529.00**

REGIONAL PARTNERSHIPS AWARDS – SALARY AWARDS

Investigator(s), Department, Institution. Type of Award.	Amount
Blanchard, Jamie, Department of Medical Microbiology, University of Manitoba. Salary award.	$ 38,500.00
Hatch, Grant, Department of Pharmacology & Therapeutics, University of Manitoba. Salary award.	$ 38,500.00
TOTAL	**$ 77,000.00**

PERSONNEL AWARDS

NEW POSTDOCTORAL FELLOWSHIP AWARDS

Fellow (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Barnabe, Norman, (Dr. Leigh Murphy) Department of Biochemistry & Medical Genetics, University of Manitoba. The effects of altered relative expression of estrogen receptor coactivators on estrogen and antiestrogen responsiveness.	$35,000.00
Fehlner-Gardiner, Christine, (Dr. Grant McClarty) Department of Medical Microbiology, University of Manitoba. Purification and characterization of tryptophan synthase from Chlamydia trachomatis.	$35,000.00
Freed, Darren, (Dr. Ian Dixon) Department of Physiology, St. Boniface Hospital Research Centre. Left ventricular hypertrophy.	$35,000.00
Harding, Gregory, (Dr. Peter Zahradka) Department of Physiology, St. Boniface Hospital Research Centre. GBY-mediated induction of protein synthesis in smooth muscle cells by the Angiotensin II AT1 receptor after vascular injury.	$35,000.00
McKeen, Nancy, (Dr. Judy Chipperfield) Department of Psychology, University of Manitoba. Emotional experience in elderly people: perceptions of control and health.	$35,000.00
Wang, Baiqiu, (Dr. Ian M.C. Dixon) Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Inhibition of the Smad signal and function of cardiac fibroblasts.	$35,000.00
Travel allowances	$ 6,000.00
TOTAL	**$216,000.00**

POSTDOCTORAL FELLOWSHIP RENEWALS

Fellow (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Moon, Michael (Dr. P. Zahradka), Experimental Cardiac Surgery, St. Boniface Hospital Research Centre. The role and regulation of cytokeratin expression in vascular smooth muscle cells following injury and their role in restenosis.	$ 35,000.00

Fellow (Supervisor), Department, Institution. Project or Field of Research.	Award
Pattarini, Roberto (Dr. J.D. Geiger), Department of Pharmacology, University of Manitoba. Nucleoside HIV-1 antiretroviral drug uptake into brain cells.	$ 35,000.00
Jiang, Zhi Sheng (Dr. E. Kardami), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Mechanism of FGF-2 cardioprotection.	$ 35,000.00
Travel allowances	$ 3,000.00
Total	**$108,000.00**

MHRC AWARD FOR EXCELLENCE IN POSTDOCTORAL RESEARCH

Fellow, Department, Institution.	Award
Mhanni, Aizeddin, Department of Biochemistry and Medical Genetics.	$ 2,000.00
TOTAL	**$ 2,000.00**

NEW GRADUATE STUDENTSHIP AWARDS

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Bilenki, Laura, (Dr. Xi Yang) Department of Immunology, University of Manitoba. The inhibition of allergy by intracellular bacterial infection.	$16,000.00
Bowen, Sarah Jane, (Dr. J. Kaufert) Department of Community Health Sciences, University of Manitoba. Language access to health care.	$16,000.00
Cheng, Shaohong (Dr. Gunnar Valdimarsson) Department of Zoology, University of Manitoba. Developmental Molecular Biology.	$16,000.00
Clara, Ian, (Dr. Cam-Loi Huynh) Department of Psychology, University of Manitoba. The use of ordinal data modeling techniques in epidemiological and health research settings.	$16,000.00
Digby, Tyler, (Dr. Asher Begleiter) Manitoba Institute of Cell Biology, CancerCare Manitoba. Effect of dietary induction of DT-Diaphorase on the anti-tumor activity of RH1.	$16,000.00

Student (Supervisor), Department, Institution. Project or Field of Research.	Award
Hall, Nathan, (Dr. Raymond Perry) Department of Psychology, University of Manitoba. Social Psychology	$16,000.00
Kassiri, Kamrouz, (Dr. Andrew J. Halayko) Department of Physiology, University of Manitoba. Airway smooth muscle phenotype: mechanisms of histamine-induced cholinergic hyperresponsiveness.	$16,000.00
Kothari, Shilpa, (Dr. Spencer Gibson) Manitoba Institute of Cell Biology, CancerCare Manitoba. Investigation of transcriptional regulatory mechanisms of BNIP3 gene.	$16,000.00
Kutnikoff, Tricia, (Dr. Donna Turner) Department of Community Health Sciences, University of Manitoba. The risk of colorectal cancer following gastric surgery for benign peptic ulcer disease: A population-based, historical cohort study.	$16,000.00
McLaren,Paul (Dr. Frances A. Plummer) Department of Medical Microbiology, University of Manitoba. Resistance to HIV-1: The role of immune gene expression.	$16,000.00
Modha, Geetanjalee, (Dr. Yvonne Myal) Department of Pathology, University of Manitoba. Characterization of stably transfected mammary cell lines with an inducible mutant IGFIR.	$16,000.00
Pidlubny, Shannon, (Dr. Anita Kozyrskyj) Department of Community Health Sciences, University of Manitoba. Personality versus sociodemographic predictors of mental health treatment seeking behavior in depressed adults.	$16,000.00
Swanson, Magdalena, (Dr. K. Coombs) Department of Medical Microbiology, University of Manitoba. Cloning, identification and characterization of the reovirus RdRp cofactor.	$16,000.00
Swift, Audrey, (Dr. Judith G. Chipperfield) Faculty of Physical Education & Recreation Studies, University of Manitoba. The psychological determinants of health and survival among older individuals.	$16,000.00
Wang, Jingwei, (Dr. N.S. Dhalla) Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Remodeling of myofibrils during the development of heart failure.	$16,000.00
TOTAL	**$240,000.00**

GRADUATE STUDENTSHIP RENEWAL AWARDS

Student (Supervisor), Department, Institution. **Project or Field of Research.**	**Award**
Frosk, Patrick (Dr. K. Wrogemann), Department of Biochemistry and Medical Genetics, University of Manitoba. Modifier genes in Limb Girdle Muscular Dystrophy 2B/Myoshi Myopathy.	$16,000.00
Guo, Xiaobing (Dr. N.S. Dhalla), Institute of Cardiovascular Sciences, St. Boniface Hospital Research Centre. Molecular effects of renin angiotensin system blockade in heart failure.	$16,000.00
Han, Xiaobing (Dr. X. Yang), Department of Medical Microbiology, University of Manitoba. Effect of intracellular bacterial infection (Chlamydia) on allergic response to allergen (ovalbumin).	$16,000.00
Krishnan, Jayakumar (Dr. J.A. Wilkins), Rheumatic Disease Unit Laboratory, University of Manitoba. Isolation and identification of Integrin associated molecules.	$16,000.00
Kumar, Ayush (Dr. E. Worobec), Department of Microbiology, University of Manitoba. Role of OmpC and OmpF porins in antibiotic resistance of Serratia marcescens.	$16,000.00
Leclair, Leanne (Dr. A. Yassi), Department of Community Health Sciences, University of Manitoba. Evaluating a capacity building program in school health.	$16,000.00
Mauthe, Jill (Dr. S. Pind), Department of Biochemistry and Medical Genetics, University of Manitoba. Expression and genomic organization of 3-phosphoglycerate dehyrogenase.	$16,000.00
Schnabl, Kareena (Dr. B. Hasinoff), Faculty of Pharmacy, University of Manitoba. MSc. Pharmacy.	$16,000.00
Shuttleworth, Tamara (Dr. B. Triggs-Raine), Department of Biochemistry and Molecular Genetics, University of Manitoba. Functional studies of hyaluronidase 1.	$16,000.00
Stuart, Tammy (Dr. F.A. Plummer), Department of Medical Microbiology, University of Manitoba. HIV genetic diversity and the interaction and effects of the various subtypes.	$16,000.00
Todd, Stacey (Dr. K.R. Grant), Department of Sociology, University of Manitoba. MA in sociology	$16,000.00
TOTAL	**$176,000.00**